Before the FEDERAL COMMUNICATIONS COMMISSION Washington, D.C. 20554

In the Matter of)	
Application by Verizon New England	í	
Inc., Bell Atlantic Communications,)	
Inc. (d/b/a Verizon Long Distance),)	
NYNEX Long Distance Company)	CC Docket No. 02-7
(d/b/a Verizon Enterprise Solutions),)	
Verizon Global Networks Inc., and)	
Verizon Select Services Inc. To Provide)	
In-Region, Inter LATA Services in)	
Vermont)	
	<u> </u>	

<u>DECLARATION OF CATHERINE E. PITTS</u>

I. QUALIFICATIONS

- 1. My name is Catherine E. Pitts (formerly Petzinger). I am a consultant to AT&T on switch cost modeling issues. My business address is 810 Long Drive Road, Summerville, South Carolina.
- 2. I have an MBA from Rutgers University, New Jersey, and eighteen years of experience in the telecommunications industry. Before becoming an independent consultant earlier this year, I was employed for five years by AT&T Corporation as a District Manager in Regulatory and Legislative Affairs. Prior to joining AT&T, I was employed by Bellcore (now Telcordia Technologies) for 13 years. While at Telcordia, I was one of three individuals who designed and implemented new incremental costing methodology into the Switching Cost Information System/Intelligent Network (SCIS/IN) model. The SCIS/IN model is used to identify the costs associated

with switching "features" (e.g., call waiting, call forward, and caller ID) and belongs to the family of SCIS models used to determine the costs associated with switching in general. I was Telcordia's lead subject matter expert on feature costing, as well as a subject matter expert on the 1ESS, 1A ESS and 5ESS switches. When I was promoted to lead the SCIS group of approximately 20 people, I was responsible for the technical development, production, documentation, and customer care for the Switching Cost Information System/Model Office (SCIS/MO) and SCIS/IN models.

3. My experience also includes extensive consultation in the use of cost models in various cost studies in the United States and abroad. I have presented expert testimony regarding switching investments and costs in numerous unbundled network element ("UNE") and Universal Service Fund ("USF") proceedings. Most significant for purposes of this proceeding, I have participated in Verizon cost proceedings in New York, Virginia, Maryland, Massachusetts, New Hampshire and Rhode Island.

II. SUMMARY AND PURPOSE OF TESTIMONY

4. The purpose of my testimony is to explain several significant defects in the rates that Verizon-Vermont charges for unbundled switching. As fully set forth in the affidavit of Michael Lieberman, Verizon-Vermont's switching rates are about 102 percent higher than the rates for switching that the New York Public Service Commission recently adopted for Verizon in New York. While Vermont is more rural than New York, state-specific factors in no way justify Vermont's substantially higher switching rates. Indeed, as Mr. Lieberman's affidavit demonstrates, this Commission's Synthesis Cost Model shows that Verizon's investment per line in Vermont is only 17 percent higher than in New York. Rather, Verizon-Vermont's switching rates are

excessive and unreasonable because those rates fail to comply in a number of respects with the Commission's TELRIC methodology. My affidavit explains the most significant of these defects, in order to demonstrate that the high rates for switching in Vermont are substantially inflated by basic and fundamental misapplications of TELRIC.

which was largely kept confidential and shielded from meaningful review – appears to be based on prices for switches that are outdated and significantly higher than prices that an efficient new entrant would pay. Second, the information used to calculate switch port costs improperly assumed that an efficient provider would almost exclusively employ lines with a less-efficient loop carrier technology, even though it is widely recognized – even by other incumbent LECs – that a more efficient technology exists. Third, the factor that Verizon-Vermont used to account for various engineering and installation costs is substantially higher in Vermont than in other Verizon states and than the factor used by other incumbent LECs. Fourth, Verizon-Vermont's per minute rate element for unbundled switching is excessive because it improperly assumed that Verizon will recover all of its costs solely on business days – meaning that all traffic in the evenings and on weekends simply will generate pure profit.

III. <u>VERIZON-VERMONT'S RATES FOR UNBUNDLED SWITCHING ARE</u> BASED ON INVESTMENTS THAT DO NOT COMPLY WITH TELRIC.

6. Correct switch investments are essential in the calculation of TELRIC-based rates for unbundled switching. Yet the switching rates of Verizon in Vermont include data for switch investment costs that often cannot be verified due to the closed nature of Verizon's cost model. Even worse, the data for switch investment cost that is verifiable is plainly outdated and inaccurate. As a consequence, the switch

investment cost per line in Vermont is about \$160, significantly higher than the \$105 per line adopted by the New York PSC.

- That defect was critical because Verizon indisputably receives large discounts on its switch purchases. Yet the SCIS/MO model contains only the list prices for switches, and Verizon does not disclose an input for the discounted switches, which is critical in determining the correct switch investments. As a consequence, and because the SCIS/MO model was not made available to any of the parties in the UNE proceeding, including the Vermont Board, neither the Board nor any interested party was able to determine what discount inputs Verizon had used in its initial cost study filing.²
- 8. Because Verizon had used smaller discounts in other states such as New Hampshire and Maine,³ it was critical for the Board and interested parties to be able to verify that the model used the proper discount levels to develop the correct switch investments costs. But that never occurred. The Board only ordered Verizon to refile its switch cost study using corrected discounts to reflect new switch purchases. Verizon did

¹ Order, Vermont Public Service Board, February 4, 2000 ("Order") at 26 (quoting Verizon's switch witness, Mr. Anglin).

² "Since the TELRIC methodology rightly assumes that the efficient prices for unbundled elements are those necessary to cover the costs of a newly deployed network, it follows that the fully discounted costs of new switches be modeled. I cannot tell if they were." Order, at 27.

³ *Id.* at footnote 105.

file a new study reducing the average price per line for switching (total switch investment divided by total lines) from approximately \$400 to \$160. However, the same fundamental defect remained: no one, including the Board, could validate whether Verizon had followed the Board's directive because neither the SCIS model, nor a comprehensive set of model input values, were ever made available. The inability for the Board or parties in Vermont to review or analyze any of the model Verizon relied upon or Verizon's inputs to the model resulted in all parties "flying blind."

- 9. The closed nature of Verizon's rate-setting process is all the more troubling because the information that is available is plainly out-of-date or simply incorrect. The data on Verizon's switch investment is based on data that is at least five years old. Given the rapid changes in switch prices and technologies that have occurred in that time, any study that is based on data that stale cannot be considered to be forward-looking or to comply with TELRIC.⁶
- 10. For several reasons, using more recent information would dramatically reduce the per-line investment cost of switching. First, it is well known that new switch discounts are typically higher than discounts for augmenting existing

⁴ Verizon did provide some "sample" inputs that will be discussed below in Part IV.

⁵ Notably, Verizon now routinely produces the SCIS model, loaded with all of its data inputs, for inspection and review in its initial switch cost study filings

⁶ Indeed, the changes in switch technology and the decreases in switch pricing are so dynamic that, by the time a state commission completes the process of setting rates for unbundled switching, the rates are probably already out of date. Even though parties may never be able to entirely avoid this regulatory lag, that conundrum does not permit an incumbent LEC to rely on patently out-of-date technologies or prices. Rather, where new information is available, it is entirely appropriate for regulators to examine new information – particularly where (as here) such information applies to an entire region and has been used by regulators in other states – in setting an incumbent's prices.

switches (*i.e.*, so-called "growth prices"). However, because of the closed nature of the Verizon cost model, it is not possible to determine the discount input that Verizon used. But by examining more recent data, it is readily apparent that the level of discounts in Vermont is improper.

- switches are in fact higher than the growth prices that Verizon has submitted in other states. For example, in New York, Verizon's proposed average switch per line was \$128 for switches priced at growth/upgrade levels, and the New York PSC ultimately reduced that figure to \$105 per line. Yet in Vermont, the rates for unbundled switching are based on an investment cost of \$160 per line, which purportedly represents a *new* switch. Even allowing for geographic/density differences between New York and Vermont, it is inconceivable that new switches in Vermont could cost significantly more than New York switches priced at growth discounts.
- 12. Second, even if Verizon-Vermont did use the correct discount input from its switch vendor contracts, which the evidence indicates that it likely did not, those discounts are not as good as the discounts Verizon currently receives using a competitive bid process.⁹ The discounts received from competitive bids would be the most appropriate source for estimating the price of new switches.

⁷ Order, Case No. 98-C-1357, New York Public Service Commission, at 35 (June 28, 2001). In fact, AT&T showed that, if new switch discounts were used, that the price per line would have been less than \$60 per line. See AT&T's Brief on Exceptions (filed June 21, 2001).

⁸ The PSC's finding of \$105 per line for switch material costs is also too high. See AT&T's Brief on Exceptions (June 21, 2001).

⁹ Verizon acknowledged this in a proceeding in Virginia on unbundled network elements, CC Docket 00-218, Hearing Tr. at 5269 (Nov. 28, 2001). Verizon also

- Nortel switches (based on either new switch discounts or growth discounts) is \$69 per line in New York and \$88 per line in Massachusetts. Verizon-Vermont, however, included in its study only more expensive Lucent switches, reflecting the embedded switch deployment in Vermont. But that result is not consistent with TELRIC methodology. Although TELRIC requires use of an incumbent's existing wire center, it certainly does not require that a specific manufacturer's switch be replicated in the wire centers. To the contrary, it requires that the lowest-cost technology be used, not the embedded network technology. In these circumstances, where Verizon receives lower prices from Nortel, then TELRIC would mandate use of those lower prices, regardless of whether Lucent switches are actually in place in Vermont.
- 14. In addition to the problems caused by relying on data that is years out-of-date, Verizon-Vermont's switch investment cost is plagued by inaccuracies. Most notably, Verizon's interpretation of its new switch discount as provided in its switch

provided specific competitive bid discount information in the Virginia Arbitration in response to the FCC's Record Request #32.

¹⁰ VZ-MA Workpaper in DTE 01-20, May 4, 2001, WP C-2, Section 4 Pages 1 and 2; VZ-NY Workpaper Part B-2, Section 4, Page 1 and 2. The total switch investments are identified on page 1 and the total lines are on page 2. The average per line is computed by dividing the total investment by total lines. In New York, the results are on a zone basis and need to be weighted by the average lines per zone.

Taken to its logical conclusion, the argument that an efficient carrier would not exclusively use a single, lowest-cost switch provider because in the long run multiple switch vendors are necessary to maintain competitive switch prices would require that Verizon-Vermont also reflect a mix of the two technologies. In New York, for example, the embedded switch manufacturer mix was not used, but instead Verizon assumed a "forward-looking . . . fifty-fifty meld of Lucent and Nortel switches," as explained in Verizon's Panel Testimony of Bell Atlantic-NY, Case No. 98-C-1357. The basic issue here is not the mix of technologies, but the illogical results in the cost studies that show a massive disparity in cost between the two technologies that, in reality, does not exist.

vendor contracts was determined to be incorrect.¹² There is every reason to believe that this same error was also made in Vermont, resulting in overstated switch prices. The contracts available to Verizon at that time and that governed the discounts are still in force today and won't expire until 2003.¹³

15. Another example of a basic inaccuracy is Verizon's effort to reduce switch investment costs in response to the Vermont's Board's order to refile its cost studies. See supra paragraph 8. In making the changes to its prices, the total switch investment per line declined almost 60 percent: from \$400 to \$160. This overall decline in switch investment plainly should have been reflected, in roughly the same proportion, in all the revised rates for unbundled switching. That did not occur, and there is no explanation for this fundamental error. Thus, despite the overall decline in per line investment cost of about 60 percent, the rate for an ISDN BRI port decreased only 40 percent, and the rate for the ISDN trunk PRI decreased 52 percent. Likewise, the minute of use rates for switching dropped only 50 percent. The fact that the minute of use rate declined less than overall switch investment is especially troubling given that Verizon was also directed to project switching minutes over the entire period of demand, 14 which would have been expected to lower further the minute of use rate element. Even if the switch investment decline were correct, it appears from the disjointed results that Verizon's compliance filing switch UNE rates did not accurately reflect even its own interpretation of the Board's order on discount inputs.

¹² NY PSC Order, January 28, 2002, Case 98-C-1357 at 21 and the Recommended Decision on Module 3 Issues by ALJ Linsider, Case 98-C-1357, May 16, 2001 at 128.

¹³ Verizon-MA Panel Testimony, Case DTE 01-20, at 142 (May 4, 2001).

¹⁴ Vermont Board Order at page 28.

IV. <u>VERIZON'S DATA INPUTS THAT WE DO KNOW ABOUT PRODUCE</u> INFLATED SWITCH UNE RATES.

- In addition to its errors relating to switch investment, Verizon also made fundamental errors in applying TELRIC methodology to its data inputs. Once again, the closed nature of Verizon's study makes it impossible for the Board or interested parties to fully analyze Verizon's data inputs. But remarkably, there are errors even in the few "sample" inputs that Verizon did provide. These errors not only further inflate the rates for unbundled switching, but also destroy any basis for believing that Verizon's other undisclosed inputs comply with TELRIC.
- and line fill factors. Neither of these inputs are forward-looking, and both result in excessive unbundled switching rates. With respect to line types, Verizon assumed approximately 90 percent of the lines are integrated digital loop carrier (IDLC) lines. The type of ILDC carrier that is assumed is critically important to deriving a TELRIC-based rate for switching. In particular, the cost and engineering efficiency of GR-303 (formerly called TR-303) is well known and widely accepted in the industry. Indeed, another incumbent LEC, BellSouth, recently filed expert testimony which asserted that

Generic Requirement 303 ("GR-303") (authored by Bellcore) provides a set of generic requirements that describe more flexible [than TR008] NGDLC system types and a more flexible interface at a local digital switch. . . The concentration allowed over these interfaces is variable and can be matched to the services being made available from the remote NGDLC site to allow the most economic concentration ratio consistent with the service being provided. While there are many variables that impact the decision of which switch termination type to use for the interface between a remote NGDLC site and the local digital switch, generally the most economic configurations are provided by using GR-303 sites with more than 150 lines in the three to five year planning period.

Direct Testimony of W. Keith Milner on behalf of BellSouth Telecommunciations, Inc. October 1, 2001, Georgia Docket No. 14361-U.

- 18. Nevertheless, *none* of the lines in Verizon's Vermont study were modeled as forward-looking GR-303 IDLC lines. Instead, Verizon assumed all of the IDLC lines would employ older technology based on TR-008 standards (specifically Verizon used TR-008 Mode I). Verizon's cost study assumption that approximately 90 percent of the lines in Vermont are on less-efficient IDLC produces switch UNE rates that exceed TELRIC.
- inefficient and significantly below the factors adopted by the Commission and even by other incumbent LECs. In Vermont, Verizon's data shows that it assumes only 72 percent utilization on the IDLC lines in its study and only 81 percent utilization on analog lines. Further, as computed by the SCIS/MO model, the effective utilization levels are even lower. That is because the SCIS/MO model adds costs for "breakage," which occurs when equipment is purchased in modular units and the demand does not use all the capacity of the modular unit. In other Verizon states, Verizon accounts for the SCIS-computed breakage and adjusts its utilizations accordingly, but this was not done in Vermont. When the SCIS breakage is taken into account, the effective utilizations are only 56 percent for IDLC lines and 68 percent for the analog lines, thereby grossly inflating the cost of UNE port rates. Appropriate forward-looking line port utilizations should be much higher; for example, the Synthesis Model uses a 94 percent fill factor.

¹⁵ The cost of a port is divided by the utilization percentage to increase the cost of the port. The lower the utilization, the higher the port cost.

¹⁶ See, e.g., Workpaper Part C-1 in Verizon's Massachusetts UNE filing.

V. <u>VERIZON-VERMONT EMPLOYED FACTORS FOR POWER AND FOR ENGINEERING COSTS THAT ARE IRRECONCILABLY HIGHER THAN OTHER VERIZON STATES.</u>

- 20. In addition to its flawed data inputs, the factors chosen by Verizon to adjust switch costs to account for certain engineering, furnishing and installation ("EF&I") costs are deeply flawed, and result in a switch investment that is increased by more than 54 percent.
- certain "factors" to the switch cost to account for certain types of investments associated with installing a switch and making it operational, such as the costs for power and for EF&I. If these factors are inflated, then that directly drives up the installed switch investment, which in turn raises the price for unbundled switching. For digital switch engineering and installation costs, Verizon-Vermont used a factor of 54.24 percent, a figure that is grossly out-of-line with those used by Verizon in other states in its territory.¹⁷ In New York, for example, the EF&I factor used was 43.26 percent, and in Massachusetts, it was 40.27 percent.¹⁸ The Verizon-Vermont factor for EF&I is also inconsistent with BellSouth's proposal of a ten percent EF&I factor for the telephone company portion of the EF&I factor during the USF Synthesis Model input proceedings. Moreover, an average 10 percent EF&I factor was used during the Open Network Architecture (ONA) direct case filings by multiple Regional Bell Operating Companies

¹⁷ The Board indicated its apparent discomfort with this factor as well. Order at 28.

The factors differ slightly because the NY factors were calculated using 1998 data and the Massachusetts factors were calculated using 1999 data. Notably, a 43.26 percent EF&I factor also does not comply with TELRIC. AT&T has proposed forward-looking EF&I factors ranging between 20 percent and 30 percent consisting of roughly 10 percent local telephone company EF&I and 10 percent to 15 percent for the vendor

- (RBOCs). The effect of the inflated EF&I factor is highly significant: reducing Vermont's EF&I factor by just 20 percent to the already inflated New York factor of 43.26 would reduce the UNE switch rates roughly seven percent.
- 22. Verizon-Vermont's power factor is even more egregious, even though it has a smaller impact on the results. Verizon's .1092 power factor in Vermont is almost twice that of New York (.0516) and Massachusetts (.0586). Reducing Verizon-Vermont's power factor to the region-wide factor would result in approximately a four percent decline in switch UNE rates.
- VI. VERIZON-VERMONT'S MOU RATE ELEMENT IS DESIGNED TO RECOVER ALL OF ITS COSTS OVER JUST BUSINESS DAYS AND ANY TRAFFIC OCCURRING ON WEEKENDS AND HOLIDAYS WOULD BE EXCESSIVE PROFIT.
- 23. Another highly significant error in Verizon-Vermont's cost methodology relates to its MOU rate element. To calculate a minute of use rate element for unbundled switching, Verizon initially calculated the cost for a "busy-hour," *i.e.*, the peak usage.¹⁹ Those busy-hour minute of use costs are then converted to a cost for "any hour of the day" by multiplying a 10 percent busy hour to total business day (BHTD)

portion of EF&I.

¹⁹ AT&T has demonstrated in both the New York and Massachusetts proceedings (as well as Virginia, Maryland and Pennsylvania) that Verizon includes large fixed costs in its usage-sensitive minute of use rate element that violates the basic economic cost principle of cost-causation. This error inappropriately reduces the port element while inflating the minute of use element. The skewed allocation of switch investment to the MOU rate element is, in addition to the overall inflated investment, a key driver for the substantially higher UNE-P rates in Vermont than in New York as shown in Mr. Lieberman's declaration.

ratio and then dividing by 252 business days in a year.²⁰ This calculation ensures that Verizon will recover 100 percent of the costs from traffic that occurs on business days.

24. This calculation may be acceptable for business-related service cost studies, such as Centrex, but it is entirely inappropriate for a wholesale rate element that will be used by residential and business customers. The revenue received from the minute of use rate element in the remaining 113 days of the year would be pure profit to Verizon because its has calculated that rate element to ensure that it fully recovers its costs from the traffic occurring on business days. Instead of Verizon's method, the proper approach is plainly to divide the peak period costs over all 365 days per year, because the switch will in fact be used all of the days of the year.

VII. CONCLUSION

that the SCIS outputs in this case do not exaggerate the costs of unbundled switching."

Order at 25. But because of "the fact that the SCIS model is fundamentally unknowable," the Board admitted that "without rigorous testing, one cannot be altogether confident that its outputs, given a reasonable set of inputs, are themselves reasonable."

Id. at 26. In fact, given that unbundled switching prices in Vermont are 102 percent higher, than rates in New York, and the numerous TELRIC errors on which Verizon's Vermont rates are based, Verizon's rates plainly are not cost-based.

²⁰ As shown in VZ's Workpaper Part C-7.2, page 1, VZ performs this calculation in a slightly different, but mathematically identical, way by dividing the busy hour cost per minute of use by 2,520.

YERIFICATION PAGE

I, Catherine Pitts, declare under penalty of perjury that the foregoing is true and correct.

Catherine Pitts

Executed on February 6, 2002.

Before the Federal Communications Commission Washington, D.C. 20554

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DECLARATION OF MICHAEL KALB ON BEHALF OF AT&T CORP.

I. INTRODUCTION

- My name is Michael Kalb. My business address is AT&T Corp.,
 N. Maple Avenue, Basking Ridge, New Jersey.
- 2. I received a Bachelor of Science degree in Physics in 1969 from the Cooper Union. In 1971 I received a Master of Philosophy degree in Physics and in 1974 a Ph.D. in Physics, both from the Yale University. I spent the next five years as a Chaim Weitzman Fellow at Yale University and the Center for Theoretical Physics at the Massachusetts Institute of Technology.
- 3. I was first employed by AT&T in 1979. At that time, I joined Bell Laboratories as a Member of Technical Staff evaluating the performance of voice and data communications systems on telephone networks. This led to numerous published and proprietary works describing quantitative models of performance based on laboratory

and live network studies. In 1986, I was promoted to Distinguished Member of Technical Staff after beginning the systematic formulation of relevant domestic and international performance parameters and standards for voice and data. In 1994 I was elected Vice-Chair of T1A1.7, the working group responsible for standardization of performance of voice and data communications on North American telephone networks. After leading this body to numerous voice and modem performance standards on public and private networks, my work culminated with the production of a ratified technical report on the performance of unbundled loops, as mandated by the Telecommunications Act of 1996 (the "1996 Act"). Also, during this period, I consulted frequently with the Law and Government Affairs area of AT&T in the formulation of the LCUG Service Quality Measurements ("SQMs"). In 1999, I moved to the Law and Government Affairs area of AT&T where I continue to apply my performance expertise to problems associated with the Telecommunications Act of 1996.

4. In my current position as policy analyst at AT&T, one of my responsibilities is to identify and promote CLECs' and AT&T's position on the need for adequate, self-executing performance remedies. In that role, I have been directly involved in the development of AT&T's policy on this subject, represented AT&T in numerous LCUG meetings, participated in state workshops relating to performance measurements and consequences, and have met with the Commission and the Department of Justice to provide AT&T's input on a variety of topics relating to performance measurement and incentives. I have represented AT&T and other CLECs in several regulatory proceedings concerning the appropriate statistical methodology to use in an effective performance measures methodology. I have met with the Commission on this

in New Hampshire, Rhode Island, Maine, Connecticut, Massachusetts, New Jersey, District of Columbia, Indiana, Michigan, Wisconsin, Illinois, California, New York, Texas, Florida, Georgia, Louisiana, Nevada, Washington, Oregon, and Colorado.

II. PURPOSE AND SUMMARY OF DECLARATION

5. In its Application to provide in-region, interLATA services in Vermont, Verizon contends that it "is subject to a self-executing performance plan in Vermont... that provides 'strong assurance that the local market will remain open after [Verizon] receives section 271 authorization." Verizon Br. at 93. I disagree. The purpose of my declaration is to explain that the Vermont Performance Assurance Plan ("Vermont PAP") approved by the Vermont Public Service Board ("VPSB") contains fundamental defects that preclude the plan from deterring or detecting anticompetitive conduct in the wake of Section 271 relief.

III. FRAMEWORK FOR REVIEW OF THE VERMONT PAP

6. The principal purpose of an anti-backsliding plan is to provide sufficient incentives for a BOC to continue providing CLECs the nondiscriminatory support that is required by Section 251 after a Section 271 application is granted. After a BOC has obtained Section 271 approval, it will no longer have the substantial business incentives provided by Section 271 to provide nondiscriminatory support for CLECs. Quite the contrary, the BOC will have powerful incentives to exploit its position as the supplier of facilities and services to drive its competitors out of both the local and long distance markets.

- 7. In these circumstances, it is important to counterbalance the BOC's anticompetitive business incentives with the immediate application of monetary remedies based on an anti-backsliding plan that will promptly detect and deter unlawful conduct. In order to counteract the anticompetitive incentives that are inherent in the BOC's position with incentives to provide nondiscriminatory support to CLECs, an anti-backsliding plan must have sufficient and certain monetary consequences to preclude the BOC from rationally concluding that it stands more to gain from discriminating against CLECs and paying the financial consequences under the plan, than by satisfying its statutory obligations in the first instance. Ideally, if the monetary consequences of the remedy plan serve their intended purpose, the BOC should have to pay nothing at all.
- 8. The Commission has "strongly encourage[d] state performance monitoring and post-entry enforcement" and also has found that such mechanisms could "constitute probative evidence that the BOC will continue to meet its Section 271 obligations and that its entry would be consistent with the public interest." Notably, "in all the applications that have been granted to date, each contained a performance plan to protect against backsliding after entry into the long-distance market."

¹ Memorandum Opinion and Order, Joint Application of SBC Communications, Inc., et al, for Provision of In-Region InterLATA Services in Kansas and Oklahoma, 16 FCC Rcd. 6237 (2001) ("KS/OK 271 Order") ¶ 269 (footnote omitted).

² Memorandum Opinion and Order, Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-Region InterLATA Service in the State of New York, 15 FCC Rcd. 3953 (1999) ("NY 271 Order") ¶ 429; KS/OK 271 Order ¶ 269.

³ Memorandum Opinion and Order, Application of Verizon New England Inc. (d/b/a Verizon Long Distance et al. For Authorization to Provide In-Region InterLATA Services in Massachusetts, 16 FCC Rcd. 8988 (2001) ("Massachusetts 271 Order") ¶ 236 (footnote omitted).

- 9. The Commission also has found that, when a Section 271 applicant relies on a performance enforcement plan in its application, the Commission will examine the contours of the plan to determine whether it provides sufficient incentives to assure that the BOC will meet its statutory obligations after Section 271 approval. See, e.g., NY 271 Order ¶433 (noting that "[w]here as here, a BOC relies on performance monitoring and enforcement mechanisms . . . we will review . . . certain key aspects of these plans to determine whether they . . . are likely to provide incentives that are sufficient to foster post-entry compliance").
- York Performance Assurance Plan ("New York PAP") would serve as an effective tool for ensuring "market opening performance" after Verizon received Section 271 approval. NY 271 Order ¶ 433. In bolstering this finding, the Commission found that: (1) Verizon's potential liability under the plan provided a "meaningful and significant incentive to comply with the designated performance standards;" and (2) the plan had a "reasonable structure designed to detect and sanction poor performance." Id. The Vermont PAP does not satisfy these criteria.

IV. DEVELOPMENT OF THE VERMONT PAP

11. On August 7, 2001, Verizon requested that the VPSB endorse its request for authority to provide in-region, interLATA telecommunications services in Vermont pursuant to Section 271. As part of that filing, Verizon proposed a PAP and Change Control Plans that it asserted provided sufficient incentives to assure its future

compliance with its statutory obligations. Verizon's proposed PAP and Change Control Plans were modeled, in large measure, on the New York PAP and Change Control Plans.⁴

bill credits if Verizon fails to meet parity and benchmark standards for the three categories of measures in the Plan: (1) Mode of Entry ("MOE") measures; (2) Critical Measures; and (3) Special Provisions measures. Under Verizon's proposed PAP, Verizon is required to provide bill credits to those affected carriers for performance failures associated with "[t]he MOE segment [that] measures the overall level of service on a industry-wide basis for each method or mode by which carriers can enter the local exchange market under the Telecommunications Act of 1996." In addition, bill credits are given to those affected carriers when Verizon fails to meet performance standards on Critical Measures. The Critical Measures in Verizon's proposed Vermont PAP are a subset of the MOE measures and evaluate performance in 12 critical areas which purportedly are the most important to the provision of quality services. *Id.* at 2, 6-7. Furthermore, Verizon's proposed PAP also includes bill credits for Special Provisions

⁴ The performance remedy plans in Massachusetts and Connecticut are also modeled on the New York PAP. See Massachusetts 271 Order ¶ 238 (noting that the Massachusetts "PAP is modeled on the New York Plan"). See also, Memorandum Opinion and Order, Application of Verizon New York, Inc. et al., for Authorization to Provide In-Region InterLATA Services in Connecticut, Docket No. CC-01-100 (rel. July 20, 2001), ¶ 76 (noting that "Verizon's Connecticut PAP is essentially the same as the New York PAP we reviewed as part of Verizon's New York Section 271 application, except for penalty caps, which have been reduced to reflect the much smaller number of lines served by Verizon in Connecticut") (footnote omitted).

⁵ See, e.g., Verizon's proposed Vermont Performance Assurance Plan, Verizon Vermont 271 Application, App. L, Tab 7 at 2.

measures "that are viewed as measuring key aspects of Verizon VT's performance," including its performance on flow through, hot cuts, and order processing. *Id.* at 2.

Vermont PAP and Change Control Plans, subject to certain modifications. In this regard, the VPSB, *inter alia*, added certain measures to the Critical Measures, Mode of Entry, and Special Provision categories. *Id.* at 6. Importantly, unlike Verizon's proposed PAP – which requires the issuance of bill credits to CLECs adversely affected by performance failures associated with all Mode of Entry measures – the Vermont PAP approved by the VPSB requires that Verizon make payments for Mode of Entry measures to the Vermont Universal Service Fund. As the VPSB explained, the CLECs will "receive compensation payments for direct harm (as measured by the Critical Measures) while compensation payments for generalized harm (as measured by the MOE category) will benefit the general body of potential Vermont customers." VPSB Letter at 7. As demonstrated in more detail below, because of the way in which the Vermont PAP provides compensation for Mode of Entry measures, the plan will not serve to deter Verizon from engaging in anticompetitive conduct against the CLECs.

V. FAILURE OF THE VERMONT PAP TO DETER ANTICOMPETITIVE CONDUCT AGAINST CLECS

14. Competition in the telecommunications markets is the central goal of the 1996 Act. In order to promote such competition, Congress required the BOCs in Section 251 of the Act to provide services and facilities to CLECs in a just, reasonable

⁶ See Letter from Michael H. Dworkin, et al. to V. Louise McCarren, Docket No. 6533 (January 16, 2002), Verizon Vermont 271 Application (App. L, Tab 2) ("VPSB Letter").

and nondiscriminatory manner, and those requirements were made prerequisites to the provision of in-region, interLATA services, by their incorporation in the competitive checklist in Section 271. 47 U.S.C. §§251(c)(2), (3) & (4). Clearly, when competition is fostered and thrives, consumers of telecommunications services will benefit as well.

- 15. It is equally clear that the objective of the 1996 Act can and will be thwarted if ILECs engage in anticompetitive conduct against the CLECs. Thus, an effective performance remedy plan can be effective only if it provides sufficient, meaningful financial consequences that will deter the ILEC from engaging in anticompetitive conduct after Section 271 approval. Moreover, the ILEC will provide subpar and discriminatory service unless the financial consequences for doing so are more than the mere cost of doing business.
- Relatedly, an enforcement plan cannot be effective in promoting market entry and deterring anticompetitive conduct if the ILEC can avoid making financial payments to those CLECs that have been victimized by such behavior. In this regard, CLECs that are subjected to substandard and discriminatory performance can suffer devastating consequences, including the loss of goodwill, customer dissatisfaction, and loss of market share. In fact, a CLEC that is subjected to anticompetitive conduct that results in the loss of market share could become so financially crippled that it must exit the marketplace altogether. Clearly, a performance remedy plan cannot have the desired effect of assuring nondiscriminatory performance and fostering market entry if the plan is structured in such a manner that victimized CLECs are not compensated for harm attributable to performance failures on measures covered under the plan.

17. In apparent recognition of these realities, the performance remedy plans relied upon by BOCs in Section 271 applications approved by the Commission have included provisions requiring payments to CLECs that have been adversely affected by the BOC's substandard or discriminatory conduct associated with the performance measures in the plans. Unfortunately, the Vermont PAP cannot effectively deter discriminatory conduct against the CLECs or promote competition because it fails to compensate affected CLECs for performance failures relating to the vast majority of measures in the plan.

A. The Vermont PAP Compared To the New York, Massachusetts and Connecticut Plans

18. The Vermont PAP stands in stark contrast to the New York, Massachusetts and Connecticut performance remedy plans in effect at the time of Section 271 approval. As Verizon correctly observes, unlike the performance remedy plans in New York, Massachusetts and Connecticut that require Verizon to make payments to the CLECs for performance failures under all four Mode of Entry categories, Critical Measures, and Special Provisions measures, the Vermont PAP requires Verizon to make payments for any Mode of Entry measures to the State Universal Service Fund. Guerard/Canny Abesamis Decl., ¶ 92.7 Thus, unlike the performance plans in New York, Massachusetts and Connecticut that provide payments to CLECs for performance failures

⁷ Under the New York PAP, annual bill credits are "available to CLECs if BA-NY provides the maximum allowable unsatisfactory performance in all four MOE categories." Bell Atlantic-New York Compliance Filing – Performance Assurance Plan, Case Nos. 97-C-0271 and 99-C-0949, New York Public Service Commission, April 2000 at 2-3. In addition, under the New York PAP, annual bill credits are payable to CLECs "if BA-NY provides the maximum allowable out of parity performance on all twelve Critical Measures," as well as the Special Provisions measures. *Id.* at 3-4.

associated with *all* measures covered under such plans, the Vermont PAP provides no compensation to CLECs for performance misses on over 100 Mode of Entry measures.

B. The Vermont PAP Compared To the Pennsylvania PAP

- in effect when Verizon's Pennsylvania 271 application was approved a plan that "differs significantly from the New York PAP." The Pennsylvania PAP at the time of Section 271 approval included two different types of bill payments to CLECs. Noting that a performance remedy plan should "contain remedies that flow to the affected party" the Pennsylvania Public Utility Commission determined that CLECs that did not receive a service should receive "its actual, out-of-pocket payment on a prorated basis" under Tier 1 of the remedy plan. 9
- 20. In addition, the Pennsylvania PAP also included Tier 2 liquidated damages payments. With respect to those measures in the Pennsylvania PAP that were assessed at the CLEC-specific level, Verizon was required to provide liquidated damages payments to each affected CLEC. As to those measurements where Verizon's performance was assessed on an aggregate CLEC basis, Verizon was required to provide

⁸ Memorandum Opinion and Order, Application of Verizon Pennsylvania Inc. for Authorization to Provide In-Region, InterLATA Services in Pennsylvania, CC Docket No. 01-138 (rel. Sept. 19, 2001) ("Pennsylvania 271 Order"), ¶ 127.

⁹ See Opinion and Order, Joint Petition of NEXTLINK Pennsylvania, Inc., et. al., for an Order Establishing a Formal Investigation of Performance Standards, Remedies and Operations Support System Testing for Bell-Atlantic-Pennsylvania, Inc., Docket No. P-00991643 (Pa. Pub. Util. Comm'n rel. December 31, 1999) at 159 (App. B, Tab R-8). Verizon Pennsylvania 271 Application.

liquidated damages payments to those CLECs that actually used the service as to which Verizon missed the performance standard.¹⁰

21. The Pennsylvania PAP also required Verizon to make liquidated damages payments to the State. If Verizon missed a measure for two consecutive months, Verizon was required to pay \$3,000 in Tier 2 remedies, \$2,000 of which was paid to the CLEC, and \$1,000 of which was paid to the State. *Id.* ¶ 160. Similarly, if Verizon missed a measurement for three or more consecutive months, Verizon was required to make a Tier 2 liquidated damages payment of \$5,000, \$4,000 of which was paid to the CLEC and \$1,000 of which was paid to the State. *Id.* Thus, although the Pennsylvania PAP, at the time of Section 271 approval, required the payment of liquidated damages to the State, the plan also required payments to every affected CLEC for performance misses associated with *all* measures in the plan. In contrast, the Vermont PAP provides no compensation to CLECs that are adversely affected by performance misses associated with scores of measures in the plan.

C. The Vermont PAP Compared to SWBT's Plans in Texas, Kansas and Oklahoma

22. Similarly, the Vermont PAP is quite unlike SWBT's Texas remedy plan (as well as the Kansas/Oklahoma plans that are modeled on the Texas plan) in effect at the time of Section 271 approval. Thus, for example, at the time of Section 271 approval, SWBT's performance enforcement plan in Texas consisted of two tiers of

¹⁰ See, e.g., Verizon, Pennsylvania 271 Application, Guerard/Canny/DeVito Decl., ¶ 159.

¹¹ See KS/OK 271 Order ¶ 270 (noting that the Kansas and Oklahoma plans "are nearly identical to the current Texas Performance Remedy Plan, itself a modified version of the plan we reviewed in the Texas 271 proceeding").

performance remedies. Tier 1 penalties, which were "paid to competitive LECs receiving the substandard performance" applied "to customer-affecting measurements, such as how long it takes to install or restore service." Texas 271 Order¹² ¶422. At the time of 271 approval, approximately 80 performance measures in SWBT's Texas plan were classified as Tier 1 measures. Tier 2 payments which were payable to the State applied "to competition-affecting measurements such as OSS availability. Id. However, as this Commission recognized, there was substantial overlap between the Tier 1 and Tier 2 measures. Because of the substantial overlap between the two tiers of performance penalties under the Texas plan, the CLECs received penalty payments for the Tier 1 measures, as well as the far majority of the Tier 2 measures. See Texas 271 Order ¶422, n. 1226 (noting that "the two tiers overlap substantially with 41 of the 47 Tier-2 measurements also counted as Tier-1 measurements"). Unlike the Texas remedy plan under which the CLECs were compensated for the vast majority of measures under the plan, the Vermont PAP does not require Verizon to compensate CLECs for performance failures associated with over 100 Mode of Entry measures. 13

23. Thus, unlike the performance remedy plans in New York, Massachusetts, Connecticut, Texas, Kansas and Oklahoma in which CLECs are compensated for performance misses associated with all or the vast majority of measures

¹² Memorandum Opinion and Order, Application by SBC Communications Inc., et. al Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in Texas, 15 FCC Rcd. 18354 (2000) ("Texas 271 Order") ¶ 422.

¹³ See Verizon's proposed Vermont Performance Assurance Plan, Verizon Vermont 271 Application, App. L, Tab 7; VPSB Letter.

in those plans, the Vermont PAP provides no payments to CLECs that are harmed by performance failures associated with scores of Mode of Entry measures.

24. Notably, implicit in the VPSB's analysis of the Vermont PAP is the assumption that CLECs suffer no "direct harm" as a result of performance failures on Mode of Entry measures. See VPSB Letter at 7. The Vermont PSB is mistaken. CLECs do suffer harm resulting from performance failures on such measures. For example, one of the Mode of Entry metrics in the Vermont PAP measures troubles reported within 30 days of installation. That measurement provides useful information on installation quality. Parity with respect to provisioning accuracy is critical because end users will attribute any inaccuracies in the provisioning of their orders by Verizon to the CLEC. Thus, performance failures on this measurement could well result in customer dissatisfaction or, worse yet, the loss of the customer. Unfortunately, however, under the Vermont PAP, CLECs are not compensated for performance misses on this measure or scores of other Mode of Entry measures. For these reasons, the Vermont PAP is fundamentally flawed and cannot reasonably be relied upon by Verizon as probative evidence that it will comply with its statutory obligations after Section 271 approval.¹⁴

York, Massachusetts, Connecticut, Texas, Kansas and Oklahoma, AT&T does not suggest that those plans are perfect. Indeed, AT&T has previously noted that these plans are deficient in many important respects. See, e.g., NY 271 Order ¶ 435, 437-440 & nn. 1329, 1334, 1337, 1342, 1349 (describing AT&T's criticisms that total liability at risk in the New York PAP is inadequate, that Bell Atlantic will not face sizeable penalties because the New York PAP is divided into multiple sub-categories, that certain metrics in the New York PAP are not adequately defined, that certain metrics should be added to the New York PAP in order to ensure its effectiveness, and that the New York PAP fails to deter targeted discrimination directed against individual CLECs); Texas 271 Order ¶ 425 n. 1239, ¶ 427 (referring to some of AT&T's criticisms of the Texas remedy plan); Pennsylvania 271 Order ¶¶ 130-131 (noting AT&T's criticisms that the financial

VI. THE VERMONT PAP'S IMPROPER CONFIDENCE INTERVAL

- 25. The Vermont PAP is also fundamentally infirm because it cannot reasonably "detect and sanction poor performance." *NY 271 Order* ¶ 433. In this regard, the Vermont PAP includes an improper confidence level that is biased in favor of Verizon. AT&T agrees that an appropriate statistical analysis should be employed to determine whether discrimination exists where Verizon's performance for CLECs can be compared to Verizon's performance for its own retail operations. However, the Vermont PAP endorses a 95% one-tailed confidence interval, resulting in a critical value of 1.645 against which to compare the computed value of the z-statistic. This approach is demonstrably unsound.
- 26. In any statistical analysis, there are inherent risks of reaching one of two distinct types of testing errors. "Type I" errors occur when a statistical test reveals that the ILEC is not meeting its obligation to provide parity of service when, in fact, it is. The ILECs, of course, would like to minimize the probability of Type I errors. Although there are two "tails" to Type I errors, only one is pertinent here: errors relating to cases in which the ILEC's performance for the CLEC is worse than its performance for itself.
- 27. By contrast, Type II errors occur when a statistical test reveals that the ILEC is providing parity of access, when, in fact, it is not. From the CLEC's perspective, the statistical test procedure should be designed to minimize the probability of Type II errors.

penalties under the Pennsylvania PAP are insufficient to deter discriminatory performance, that the plan omits key measures, and that the measurements in the plan are improperly implemented or otherwise deficient).

- 28. Both types of errors are important in determining whether parity of access has been and is being delivered to the CLEC. Type II errors are as real as Type I errors and may be more harmful to competition. Indeed, there may well be instances in which the ILEC is not providing equal service to the CLEC, but, purely by chance, the statistical test fails to detect this problem. In any event, it is necessary to strike a balance between Type I and Type II errors. Because sample sizes cannot be controlled, if the Type I error rate selected in the statistical methodology is too small, the Type II error rate will be large. The converse is also true.
- 29. Under the statistical methodology in the Vermont PAP, there should be a probability of only 5% that lack of parity will be claimed when in fact parity has been achieved, *i.e.*, the probability of a Type I error is held at 5%. Although the error rate of 5% reduces the risk that Verizon will be falsely accused of providing discriminatory service to the CLECs, there is an increased risk of a Type II error (not declaring Verizon to be out of parity when in fact it is). Thus, the statistical methodology in the Verizon PAP is necessarily biased in Verizon's favor.¹⁵

Declaration of Don J. Wood on Behalf of Department of Public Service, Docket No. 65-33, October 15, 2001, ¶ 29.

¹⁵ It should also be noted that, although AT&T disagrees with certain aspects of the analysis of the Vermont PAP by the Vermont Department of Public Service ("DPS"), the DPS correctly recognized that a remedy plan that addresses only Type I error is flawed:

While both forms of error [Type I and Type II] have consequences, the existing characteristics of the competitive marketplace in Vermont (relatively few competitors with relatively low market share) means that the consequences of Type II error (a failure to impose penalties when performance is actually substandard) are significantly greater. . . . If only one form of error is to be addressed, a policy of encouraging the development of competition for these services would favor addressing Type II error.

30. These two types of error are related such that, as the size of one error probability decreases, the other increases. Accordingly, the probability of Type I and Type II errors should be balanced. The balancing of such probabilities will depend upon, *inter alia*, the effective number of CLEC and Verizon observations. Because of the flaws in the Vermont PAP, AT&T proposed that the State of Vermont adopt its Performance Incentive Plan (PIP). The PIP is built on the inherently fair basis of balancing Type I and Type II statistical errors, rather than constraining Type I error to inappropriately small values. However, the VPSB rejected this proposal.¹⁶

CONCLUSION

For all of these reasons, Verizon cannot reasonably rely on the Vermont PAP as evidence that it will comply with its statutory obligations after Section 271 approval. The structural defects in the Vermont PAP preclude it from serving as an effective tool to detect or deter anticompetitive conduct against the CLECs.

Attached as Exhibit 1 is an example of statistical anomaly in the Vermont PAP that is corrected by AT&T's PIP. This example illustrates how a failed measure in a large state such as New York will pass in a smaller state such as Vermont. This statistical anomaly occurs because parity determinations under the Vermont PAP are based on statistical significance rather than materiality of the means difference.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge.

Dated: February 6, 2002

Michael Kalb

An Example Statistical Anomaly in The Verizon PAP That is Corrected by the AT&T PIP

The Verizon-Vermont PAP Declares Measures "Out of Parity" in a Large State That It Declares "In Parity" in a Smaller State

Below is a simple common sense example of how a failed measure in a large state like New York will be a passed measure in a smaller state like Vermont. Consider in Table 1 the mean time to repair (MTTR) performance. The performance values are typical for an interval measure of this kind.

Retail MTTR Wholesale MTTR Standard Fixed Mean Deviation Sample Mean Sample Modified Critical State (Days) (Days) size (Days) Size z-score Value P/F New York 3.00 2.00 10000 3.26 400 -2.550 -1.645 F Vermont 3.00 2.00 1000 40 Р 3.26 -0.806-1.645

Table 1 Comparison in Two States of the Statistical Operation of the Verizon PAP

The measured retail performance for Verizon in New York is shown in this example to be the same as the measured retail performance for Verizon in Vermont and equal to a mean of 3.00 days and a standard deviation of 2.00 days. Likewise the measured wholesale performance for the CLECs in New York is the same as the measured wholesale performance in Vermont and equal to a mean of 3.26 days. Both states exhibit the same performance characteristics, and in both states the retail performance is better than the wholesale performance.

The only difference between the states in this example comes in the sample sizes. In New York Verizon has a large sample size of 10,000 retail transactions, and the CLECs have a large sample size of 400 transactions. In Vermont, however, Verizon has a large sample size of 1,000 transactions, but the CLECs have a considerably smaller wholesale sample size of 40. (The example simply scales down the sample sizes by a factor of ten from New York to Vermont but keeps the performance the same.) How does the Verizon Vermont PAP statistical methodology behave in the two states, and does it truly scale?

With the given performance the example calculates the modified z scores for these two states. Note that the modified z score in the New York case (-2.550) is more negative than the (95% confidence) fixed critical value of -1.645. Therefore the measure will fail in New York. On the contrary, the modified z score calculated in Vermont (-0.806) will be much less negative than -1.645 and therefore will be a pass. ¹

Therefore, the Verizon Vermont PAP statistical methodology does not scale and leads to an operational anomaly. The same performance passes in one (small) state and fails in the other (large) state. This anomaly comes about because parity declarations are based on statistical significance rather than materiality of the means difference.

¹ The Vermont PAP's -1 performance score provision will not change this conclusion.

The AT&T PIP Does Not Suffer From the Above Anomaly

On the other hand, the AT&T PIP proposal, because it is based on materiality, does not suffer from the above sampling anomaly. Under the AT&T proposal the balancing critical value varies with sample size in the same way as the modified z score. Therefore, given the same performance, if the measure failed in New York under the AT&T PIP statistical methodology, it will also fail in Vermont. Likewise, if it passed in New York, it would also pass in Vermont. Below is Table 2, which exhibits the AT&T PIP statistical operation under the same example that demonstrated the Verizon PAP anomaly in Table 1. The difference between the two tables is in the critical value used in Table 2, which is the balancing critical value as calculated in the AT&T PIP rather than the fixed critical value of -1.645 as used in the Verizon PAP.

Table 2 Comparison in Two States of the Statistical Operation of the AT&T PIP

		Retail MTTR		Wholesa	le MTTR			
State	Mean (Days)	Standard Deviation (Days)	Sample size	Mean (Days)	Sample Size	Modified z-score	Balancing Critical Value	P/F
New York	3.00	2.00	10000	3.26	400	-2.550	-2.451	F
Vermont	3.00	2.00	1000	3.26	40	-0.806	-0.775	F

Note that in this AT&T PIP table the anomaly disappears, and will never again appear in any other such performance example.²

² This failure has a severity of 1.04 in the AT&T PIP plan for both Vermont and New York and leads simply and directly to an incentive amount. The incentive amount, for this example, produced by the Verizon-Vermont PAP will be zero. For the Verizon-NY PAP the amount cannot be calculated until other calculations are made.